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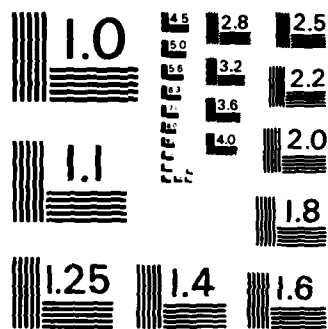   DIEGO CA   J STRAUCH ET AL. SEP 85 NOSC-CR-306
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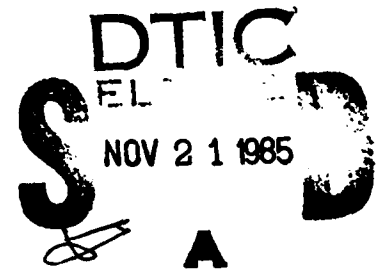# INTERACTIVE GRAPHICS UTILITY FOR ARMY NEC AUTOMATION (IGUANA)

Installation Guide

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ADMINISTRATION INFORMATION

This document was prepared to provide the user with technical information required for cabling the computer and peripherals of IGUANA. The work was done under the direction of Code 822, J. C. Logan of the Naval Ocean Systems Center.

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The Interactive Graphics Utility for Army NEC Automation (IGUANA) is a system designed to reduce the time required for antenna model evaluation by providing partial automation to both the data entry and the data display processes.

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SECTION 1 - INTRODUCTION

1.1 PURPOSE

The Interactive Graphics Utility for Army NEC Automation (IGUANA) is a system designed to reduce the time required for antenna model evaluation by providing partial automation to both the data entry and the data display processes.

Previous to this system, the use of existing Numerical Electromagnetics Code (NEC) for antenna evaluation required a lengthy, tedious, and error-prone process involving manual measurement of three dimensional coordinates of each significant point of the desired input structure from scale drawings (generally only top and side views are available), and manual entry via keyboard. The input structures are in the form of 'wire' models. The NEC programs require that each wire be specified individually by defining the x, y, and z coordinates of both end points, the wire radius, and the segmentation for each wire in the model. Complex models often require several weeks of effort to specify, check, and correct measurement and keyboard entry errors.

IGUANA automates much of the above described process using a Personal Computer (PC), a digitizer for input of the model wire end points from the top and side scale drawings, a graphics monitor for the display (including rotation and zooming capabilities) of the input data and resulting structures, a "mouse" for the editing of the structures, a plotter for the production of a hardcopy of the structure in various stages of completion, a printer for generating a hardcopy of data files to be sent eventually to the selected NEC host computer, and a modem to transfer data to and from the NEC host computer. Because of the port limitations of the computer, an A/B switch is required, allowing the digitizer and the modem to share a single port. (These two devices are never required at the same time.)

1.2 SCOPE

This document has been prepared to provide the user with the technical information required for cabling the computer and peripherals of IGUANA. Much of the information provided here can be found also in the technical documentation included with each piece of equipment. The information presented here is intended to augment - not replace - the vendor documentation.

SECTION 2 - TECHNICAL INFORMATION

This section consists of four figures to be used to aid in system installation/configuration. These are:

o   Figure 1 - IGUANA System Hardware: Lists the models of all IGUANA hardware

o   Figure 2 - Peripheral Connection Diagram (Rear View): Illustrates the inter-system cabling requirements

o   Figure 3 - IGUANA System Cables: Lists the cable/connector requirements for the IGUANA peripherals

o   Figure 4 - External Switch Settings: Presents the switch settings for the external switches on the printer, plotter, modem, and computer.

IGUANA SYSTEM HARDWARE

DEVICE	MODEL
Computer	Leading Edge System Unit MP-1676 L
Monitor	Leading Edge Color Display AT-1332AL
Printer	Hewlett-Packard ThinkJet 2225C
Plotter	Hewlett-Packard Plotter 7470A
Mouse	Microsoft Mouse
Digitizer	Science Accessories Corp GRAFBAR GP-7
Modem	Prometheus ProModem 1200
Switch	Inmac Micro-T-Switch 112

Figure 1 - IGUANA System Hardware

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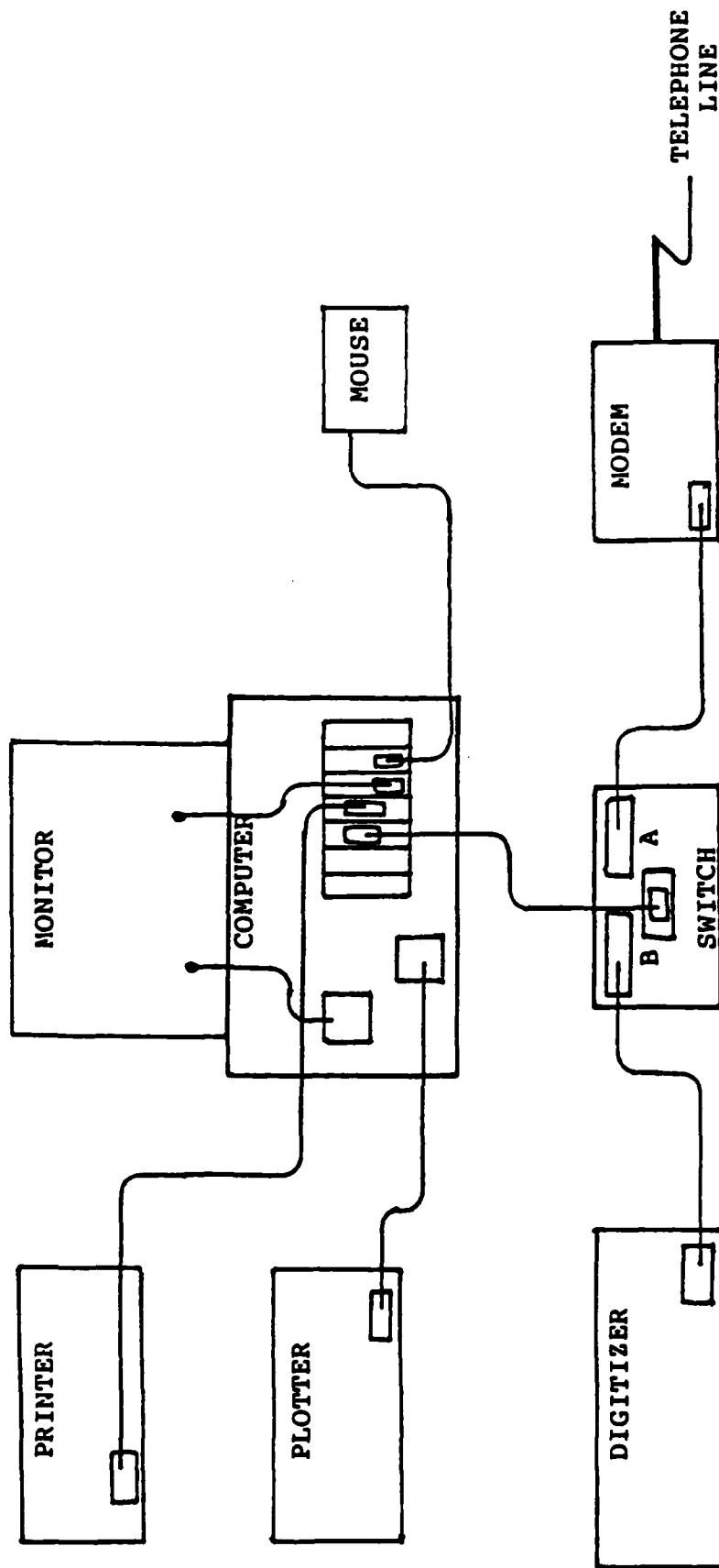
Note: Keyboard connects to front of computer.

Figure 2. Peripheral Connection Diagram (Rear View)

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IGUANA SYSTEM CABLES

CABLE		PINS
8 ft. 110-08		
Printer	Centronics Male	1-12 19 21 23 24 27 29 30 31 32 33
Computer	DB25 Male	1-12 19 20 21 22 23 24 25 16 15 18
5 ft. 1122-05-MM		
Digitizer	DB25 Male	1-8 20
Switch	DB25 Male	1-8 20
2 ft. 112-02-MM		
Modem	DB25 Male	1-8 20
Switch	DB25 Male	1-8 20
5 ft. 1122-05-MF		
Switch	DB25 Male	1-8 20
Computer	DB25 Female	1-8 20
6 ft. SH09-06-MM		
Plotter	DB25 Male	1 2 3 4 7 20
Computer	DB25 Male	1 3 2 6 7 5

Part Numbers from Sigma Electronics, San Diego, CA. (619) 565-2000

Figure 3 - IGUANA System Cables

EXTERNAL SWITCH SETTINGS

DEVICE			SWITCH SETTINGS							
Computer(SW3)	1 ↑	2 ↑	3 ↑	4 ↑	5 ↑	6 ↑	7 ↓	8 ↓		
Printer	1 ↓	2 ↑	3 ↓	4 ↓	5 ↑	6 ↓	7 ↓	8 ↓		
Plotter	S1 ↓	S2 ↓	Y ↓	US ↑	B4 ↑	B3 ↓	B2 ↑	B1 ↓		
Modem	1 ↑	2 ↑	3 ↓	4 ↑	5 ↓	6 ↑	7 ↓	8 ↑	9 ↓	10 ↓

Figure 4 - External Switch Settings

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